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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/658,648

09/09/2003

John D. Morris

5621-P1

3164

49459

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12/24/2009

NALCO COMPANY

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NAPERVILLE, IL 60563-1198

EXAMINER

DESAI, RITA J

ART UNIT

PAPER NUMBER

1625

MAIL DATE

DELIVERY MODE

12/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/658,648	<b>Applicant(s)</b> MORRIS ET AL.	
	<b>Examiner</b> Rita J. Desai	<b>Art Unit</b> 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 3-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

Claims 1,2 and 32 are pending.

Claims 3-31 are withdrawn.

The 35 USC 112 rejection over claims 1,2 and 32 has been withdrawn.

However the previous 103 rejection Senshu 1054436 and Kasai GB 1003083, and Noguchi JP 49-43688, and JP 47-12553 has been reinstated. The examiner has added the Konstantinova et al reference as applicants argue that their compounds have to have a vinyl group.

The examiner had argued but had mistakenly said that the rejection was withdrawn. In the Office action mailed 7/7/09.

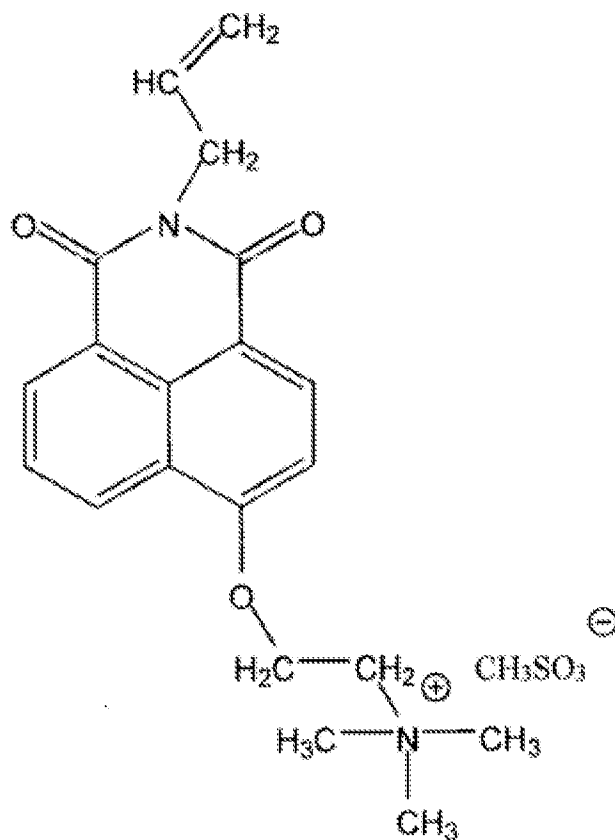
Applicants claims are drawn to monomers wherein in claims 1 and 2 , R8 which has to have an unsaturated group.

R5 can have other groups such as an alkyl .

Claim 32 is narrower and R5 also has to have an allyl group.

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The specification has data for only one compound in which R5 is an allyl group and R7, 6 and R8 are all alkyl groups. The monomer given is



This compound does not fall within the scope of claim 1, which has to have an allyl group on the R8 position.

The prior art references given in the previous rejections teach compounds which do not have an allyl group on the R5 position.

Claims 1 and 2 do not require the R5 to an allyl group. The declaration is only drawn to the fact that the compounds must have a vinyl group for the activity and for it to form a chain polymer.

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See the declaration pages 2 and 3. and the relevant part is pasted below.

"polymerizable vinyl group. AS stated above, in order to perform free radical polymerization, a compound must be able to react with a radical and generate a new propagating radical, and I have found none of the claimed compounds of said references contain a polymerizable group such as vinyl group that is required for free radical polymerization, therefore, none of these claimed compounds are capable of free radical polymerization"

Upon review of the cited references (1,003,083, 1,054,436, 47-12553, 47-12553 (2)), I have found no instance where the claimed compounds of said references incorporate a vinyl moiety that allows for free radical polymerization with other comonomers.

A polymer is a large molecule made of repeating monomers, while a monomer is the smallest repeating unit of a polymer. There are basically two types of polymerization processes that produce polymers, one is chain polymerization, and another is step polymerization; the applicants' claimed free radical polymerization is a chain polymerization. For a free radical polymerization to happen, a monomer must be able to react with a free radical species (initiating radical or propagating radical) to form a new radical species that further propagates to form polymers, these monomers are normally vinyl monomers that contain a carbon-carbon double bond, "Principles of Polymerization", by George Odian, Wiley-Interscience Publication, 1981.

The present invention teaches a naphthalimide compound containing a vinyl moiety that serves as a monomer capable of free radical polymerization with other vinyl monomers.

Hence the rejection over claims 1 and 2 still stand over Senshu 1054436 which teaches similar compounds. See formula I. It also clearly teaches that when the substance is dissolved or

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dispersed in a suitable liquid medium or when applied to a suitable material "emit a distinctive greenish blue fluorescence " still stands.

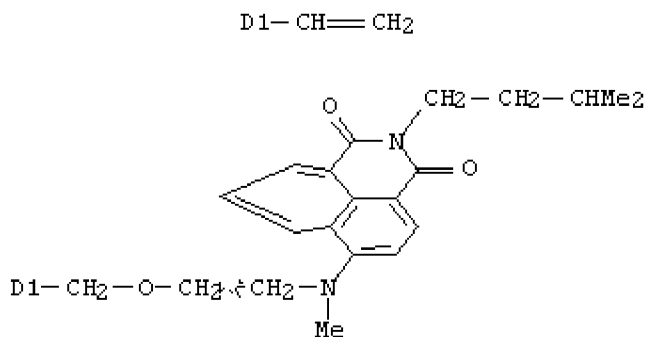
And also over Kasai GB 1003083, and Noguchi JP 49-43688, and JP 47-12553. also which disclose similar compounds still stands.

Claim 32 which limits the compounds to having an allyl group is also an obvious variant..

Even though applicants declaration recites that their compounds have to have a vinyl group there are several prior art references which teach similar compounds with a unsaturated vinyl group. See the abstract Konstantinova et al, which clearly suggests that an unsaturated group have the ability to polymerize and have demonstrated to have a good resistance to wet treatment. Would have motivated a person skill in the art to modify the compounds to have a vinyl group for the R5 or the R8 position , with a quaternary N to obtain the compounds of the instant invention.

So the declaration provided does not overcome the rejection.

There are other references such as DE 19505942, US equivalent 6248457 or US 6403239 Chen Yun et al which do teach compounds which are similar compounds



which do have an vinyl group at the

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R8 position . So the it would be obvious to uses compounds which have a vinyl group for polymerization.

The rejection of the claims 1 and 2 under 35 USC 112 enablement has been withdrawn as it is possible to make and use these compounds.

New Rejection.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 recites the limitation of a specific compound wherein R8 does not have an allyl group, in claim 1 R8 has to have an allyl group. There is thus an insufficient antecedent basis for this limitation in the claim 2.

### ***Conclusion***

Claims 1, 2 and 32 are still rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita J. Desai whose telephone number is 571-272-0684. The examiner can normally be reached on Monday - Friday, flex time..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rita J. Desai/  
Primary Examiner, Art Unit 1625

December 22, 2009.